**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

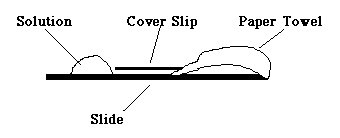
**Exploratory Activity: Osmosis in *Elodea* Cells**

**Introduction:** One of the functions of the cell membrane is to control the flow of materials into and out of the cell. In this investigation, you will observe the effects of placing plant cells in solutions of various concentrations.

**Materials:** *Elodea* leaves, microscope slides, cover slips, microscope, distilled water, tap water, 5% salt solution, 10% salt solution, paper towel.

**Methods:** Prepare a wet mount of an *Elodea* leaf with tap water. Observe the leaf at 40X and record your observations. Increase the magnification to 100X, observe, and record your observations.

Remove the slide from the stage of the microscope. Place 2 drops of the 5% salt solution on the slide at the edge of the cover slip. Tear off a small piece of paper towel and place the torn edge on the slide at the edge of the cover slip that is opposite the side where the salt solution was placed. The piece of towel should begin to soak up water, drawing the salt solution under the cover slip as it does so.



**Methods (continued):** Return the slide to the microscope stage and repeat the observations of the cells at 40X and 100X. Record your observations. Repeat the above procedure. Record your observations. Remove the slide from the stage, clean it and the cover slip, and put it away. Put the microscope on low power and put it away.

**Observations:**

Prepare sketches of a group of *Elodea* cells under each set of conditions. Label the sketches to note the cell structures that you can identify. Be sure to note any changes in the color, size, and shape of the cells. Make your sketches as accurate as possible.

**Conclusions:** Answer the following questions.

1. What is the shape of the typical *Elodea* cell?
2. What are the small green blobs found inside the cells? What is their function?
3. What happens to the cells as the salt water flows under the cover slip?
4. What happens to the cells when the salt water is flushed out with distilled water?

*5. Elodea* normally lives in fresh water. What changes would you observe in the cells of an *Elodea* plant that was suddenly moved from fresh water to salt water? Why?